Modified PTO/SB/33 (10-05)

PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number Q67075
Mail Stop AF Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Application Number 09/987,758	Filed November 15, 2001
	First Named Inventor Luc DARTOIS	
	Art Unit 2611	Examiner Cicely Q. WARE

WASHINGTON OFFICE
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Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal

The review is requested for the reasons(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

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April 16, 2007
Date

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Luc DARTOIS

Appln. No.: 09/987,758

Confirmation No.: 7485

Filed: November 15, 2001

Docket No: Q67075

Group Art Unit: 2611

Examiner: Cicely Q. WARE

For: A METHOD OF OPTIMIZING THE PERFORMANCE OF A MOBILE RADIO SYSTEM TRANSMITTER

PRE-APPEAL BRIEF REQUEST FOR REVIEW

MAIL STOP AF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to the Pre-Appeal Brief Conference Pilot Program, and further to the Examiner's Final Office action dated October 16, 2006, Applicant files this Pre-Appeal Brief Request for Review. This Request is also accompanied by the filing of a Notice of Appeal.

Claims 1, 2, 4, 6, 7 and 11-13 are rejected as anticipated by Hellberg (USP 6,324,559).

The invention defined in claim 1 includes filtering in the frequency domain, Discrete Fourier Transform (DFT), Inverse Discrete Fourier Transform (IDFT) and oversampling as processing operations performed for optimizing performance, and further provides that, for each carrier, the input sampling frequency corresponds to the modulation rate of the input signal, and the length of the DFT and the length of the IDFT are chosen in such a manner as to enable an oversampling ratio to be satisfied and to enable the frequency domain filtering. In the example described at page 8 of the specification, the input sampling rate of 3.84 MHz is the modulation

rate of the input signal, i.e., an advantage of the present invention is that it can use as the input sampling frequency the natural sampling rate of the modulation, without requiring more rapid and more expensive sampling.

Hellberg '559, as stated in the Abstract, makes sure to use different overlaps on consecutive blocks that, on average, will give the same overlap on both the input and output ends, aligns the signal on consecutive blocks of time, and compensates for phase shifts due to frequency shifting. The Abstract further states concisely that the essence of the invention is to decouple the input and output transform lengths from each other and from the overlap, so that it is possible to use any transform length on the input together with any transform length on the output and at the same time use any overlap.

The flexibility which is central to Hellberg is contrary to the constraints recited in the independent claims of the present application. The various passages cited by the examiner appear to have little relevance to the claimed invention except for the last passage at lines 42-51 of column 5, where the patentee discusses the ratio LFFT/LIFFT and the flexibility in choice of oversampling.

But this is not all that is recited in claim 1. A significant feature of claim 1 seemingly overlooked by the examiner is the requirement that, for each carrier frequency, the input sampling frequency corresponds to the modulation rate of the input signal. Hellberg is silent as to this feature and in fact does not appear to mention the input sampling frequency anywhere. Thus, Hellberg cannot anticipate claim 1 or any of its dependent claims.

In paragraph 1(a) of the final Office action mailed October 16, 2006, the examiner has disagreed with the above arguments of traversal, pointing to lines 9-36 of column 2 of Hellberg and further stating that Hellberg teaches in-phase and quadrature frequency conversion on a per-channel basis, and the examiner further asserts that channels are carriers. However, accepting all of this as fact, that would mean that Hellberg teaches in-phase and quadrature frequency conversion on a per-carrier basis. This still does not make it inherent that for each carrier the input sampling frequency will correspond to the modulation rate. Thus, there cannot possibly be anticipation.

As to claim 7, that claim is directed to the feature of the invention described beginning at line 32 of page 10 of the specification, whereby phase jumps are compensated by multiplication of the input samples by a complex which is of unitary modulus and of opposite phase to the phase jump to be compensated. The examiner cites to the passage of Hellberg from line 45 of column 10 to line 52 of column 11 as support for this claimed feature, but what is disclosed there is different. Hellberg describes determining the phase to which the modulating sinusoid has moved, and then multiplying the next block by a constant phasor. The constant phasor is not of unit modulus and opposite phase, but instead is designed such that the phase is returned to its initial value after a number of blocks. Thus, while Hellberg is relevant in that it teaches compensation for phase jumps, the technique is not the same as what is described in claim 7, nor is there anything that would have led the artisan to modify the Hellberg technique to replace the constant phasor with a complex as defined in claim 7. Accordingly, neither claim 7 nor any of its dependent claims could be anticipated or rendered obvious by Hellberg.

In the final Office action the examiner responded by pointing to Hellberg's use of the 2 or 4 modulus and multiplications and swapping real and imaginary parts of the signal. The examiner has not explained how all of this constitutes multiplication by unitary modulus and opposite phase. Indeed, one would think that the simple statement of ***2 or 4*** modulus would suffice to show that it is not ***unitary*** modulus as claimed.

The claims are directed to a specific method, and the examiner has rejected the claims by simply citing a reference that uses a few of the same words in its description, the examiner glossing over all of the substance of the claims as being somehow inherent in anything that deals with complex mathematical computations. But on closer look, there is clearly no basis for an anticipation rejection, and reversal of the examiner is requested.

Respectfully submitted,

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